FILE 'HOME' ENTERED AT 01:58:15 ON 17 AUG 2009

=> file medline, biosis
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 0.22 0.22

FILE 'MEDLINE' ENTERED AT 01:58:35 ON 17 AUG 2009

FILE 'BIOSIS' ENTERED AT 01:58:35 ON 17 AUG 2009

=> s (apatite or hydroxyapatite) (P) (Zn or zinc)
L1 385 (APATITE OR HYDROXYAPATITE) (P) (ZN OR ZINC)

=> s L1 (P) (drug or medicament or therapeutic or antibiotic or anticancer or protein)
L2 43 L1 (P) (DRUG OR MEDICAMENT OR THERAPEUTIC OR ANTIBIOTIC OR ANTIC
ANCER OR PROTEIN)

=> s L2 (P) (porous or pore or poros?)
L3 5 L2 (P) (POROUS OR PORE OR POROS?)

=> dup rem L3
PROCESSING COMPLETED FOR L3
L4 3 DUP REM L3 (2 DUPLICATES REMOVED)

=> s L4 NOT pd>20030618
L5 1 L4 NOT PD>20030618

=> d his

(FILE 'HOME' ENTERED AT 01:58:15 ON 17 AUG 2009)

FILE 'MEDLINE, BIOSIS' ENTERED AT 01:58:35 ON 17 AUG 2009
L1 385 S (APATITE OR HYDROXYAPATITE) (P) (ZN OR ZINC)
L2 43 S L1 (P) (DRUG OR MEDICAMENT OR THERAPEUTIC OR ANTIBIOTIC OR AN
L3 5 S L2 (P) (POROUS OR PORE OR POROS?)
L4 3 DUP REM L3 (2 DUPLICATES REMOVED)
L5 1 S L4 NOT PD>20030618

=> d que L2
L1 385 SEA (APATITE OR HYDROXYAPATITE) (P) (ZN OR ZINC)
L2 43 SEA L1 (P) (DRUG OR MEDICAMENT OR THERAPEUTIC OR ANTIBIOTIC OR

ANTICANCER OR PROTEIN)

=> d L5 TI AB IBIB

L5 ANSWER 1 OF 1 MEDLINE on STN
TI Chemical and physicochemical characterization of porous hydroxyapatite ceramics made of natural bone.
AB The properties of a ***porous*** ***hydroxyapatite*** ceramic produced by sintering of bovine bone were investigated by using a number of physicochemical methods such as scanning electron microscopy (SEM), SEM in combination with energy dispersive X-ray spectroscopy (SEM-EDX), mercury intrusion ***porosimetry*** , krypton-adsorption, contact angle measurements, wide angle X-ray diffraction. Fourier transform infrared spectroscopy, thermal analysis, inductively coupled plasma optical atom emissions spectroscopy and flame atomic absorption spectroscopy. The results indicate that there are considerable differences between the ceramic and native bone. However, the most important properties with respect to the use of such ceramics as a biomaterial for filling bone defects namely the high ***porosity*** (> or = 57 +/- 2%) and the interconnecting ***pore*** system are maintained. While macropores with an average diameter of approx. 300 microm contribute 97% to ***porosity*** , micropores with an average diameter of 1.3 microm account for only 3% of the total ***porosity*** . The surface area was found to be approx. 0.1 m2/g. The contact angles of water (44.6 +/- 15.4 degrees, n = 5) and tetrahydrofurane (10 degrees) allow the processing of the ceramic to a ***drug*** carrier by incubation with aqueous or organic ***drug*** solutions. The ceramic is highly crystalline with crystal sizes of 1-7 microm and contains crystal bridges. The investigation of its chemical composition revealed small amounts of other inorganic compounds such as Ca4O(PO4)2, NaCaPO4, Ca3(PO4)2, CaO, and MgO. Besides trace amounts of aluminum, iron, magnesium, potassium, silica, sodium, vanadium and ***zinc*** it contains probably carbonated ***apatite*** .
ACCESSION NUMBER: 2001044098 MEDLINE <<LOGINID::20090817>>
DOCUMENT NUMBER: PubMed ID: 10905406
TITLE: Chemical and physicochemical characterization of porous hydroxyapatite ceramics made of natural bone.
AUTHOR: Joschek S; Nies B; Krotz R; Goferich A
CORPORATE SOURCE: Merck, Biomaterial R & D, Darmstadt, Germany.
SOURCE: Biomaterials, (2000 Aug) Vol. 21, No. 16, pp. 1645-58. Journal code: 8100316. ISSN: 0142-9612.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 200012
ENTRY DATE: Entered STN: 22 Mar 2001
Last Updated on STN: 22 Mar 2001
Entered Medline: 5 Dec 2000

=> d his

(FILE 'HOME' ENTERED AT 01:58:15 ON 17 AUG 2009)

FILE 'MEDLINE, BIOSIS' ENTERED AT 01:58:35 ON 17 AUG 2009
L1 385 S (APATITE OR HYDROXYAPATITE) (P) (ZN OR ZINC)
L2 43 S L1 (P) (DRUG OR MEDICAMENT OR THERAPEUTIC OR ANTIBIOTIC OR AN
L3 5 S L2 (P) (POROUS OR PORE OR POROS?)
L4 3 DUP REM L3 (2 DUPLICATES REMOVED)
L5 1 S L4 NOT PD>20030618

=> s (apatite or hydroxyapatite) (P) (calcium (5A) substitut?)
L6 137 (APATITE OR HYDROXYAPATITE) (P) (CALCIUM (5A) SUBSTITUT?)

=> s L6 and (zinc or zn)
L7 6 L6 AND (ZINC OR ZN)

=> dup rem L7
PROCESSING COMPLETED FOR L7
L8 4 DUP REM L7 (2 DUPLICATES REMOVED)

=> s L8 NOT pd>20030618
L9 1 L8 NOT PD>20030618

=> s L9 NOT L5
L10 1 L9 NOT L5

=> d L10 TI AB IBIB

L10 ANSWER 1 OF 1 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
TI Inhibiting effect of ***zinc*** on hydroxylapatite crystallization.
AB X-Ray diffraction and spectrophotometric analysis have been used to investigate the role of ***zinc*** on hydroxylapatite (HA) crystallization. The presence of ***zinc*** in solution strongly inhibits the crystallization of hydroxylapatite, which can be synthesized as a unique crystalline phase only up to ***zinc*** concentration of

about 25 atom %. This phase exhibits a reduction of Ca/P molar ratio and crystal sizes with increasing ***zinc*** concentration. Although the Ca/ ***Zn*** ratio in the solid phase is almost equivalent to that in solution, the values of the cell parameters of the apatitic phase indicate that ***zinc*** cannot appreciably ***substitute*** for ***calcium*** in HA structure. Therefore, ***zinc*** must be assumed to be adsorbed on the surface of ***apatite*** crystallites and/or in the amorphous phase. The extent of thermal conversion of HA into beta-tricalcium phosphate (beta-TCP) increases with increasing ***zinc*** concentration in the solid phase, either when it is obtained by means of synthesis in solution or after cyclic pH fluctuation. The decrease of the lattice constants of beta-tricalcium phosphate with increasing ***zinc*** concentration in the solid phase indicates that ***zinc*** partially replaces calcium in this structure. The inhibiting effect of ***zinc*** on HA crystallization and its preference for beta-TCP structure closely resembles the behavior previously observed for magnesium.

ACCESSION NUMBER: 1995:215426 BIOSIS <<LOGINID::20090817>>
DOCUMENT NUMBER: PREV199598229726
TITLE: Inhibiting effect of ***zinc*** on hydroxylapatite crystallization.
AUTHOR(S): Bigi, A. [Reprint author]; Foresti, E.; Gandolfi, M.; Gazzano, M.; Roveri, N.
CORPORATE SOURCE: Dipartimento Chimica "G. Ciamician", Univ. Bologna, 40126 Bologna, Italy
SOURCE: Journal of Inorganic Biochemistry, (1995) Vol. 58, No. 1, pp. 49-58.
CODEN: JIBIDJ. ISSN: 0162-0134.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 31 May 1995
Last Updated on STN: 11 Jul 1995

=> d his

(FILE 'HOME' ENTERED AT 01:58:15 ON 17 AUG 2009)

FILE 'MEDLINE, BIOSIS' ENTERED AT 01:58:35 ON 17 AUG 2009
L1 385 S (APATITE OR HYDROXYAPATITE) (P) (ZN OR ZINC)
L2 43 S L1 (P) (DRUG OR MEDICAMENT OR THERAPEUTIC OR ANTIBIOTIC OR AN
L3 5 S L2 (P) (POROUS OR PORE OR POROS?)
L4 3 DUP REM L3 (2 DUPLICATES REMOVED)
L5 1 S L4 NOT PD>20030618

L6 137 S (APATITE OR HYDROXYAPATITE) (P) (CALCIUM (5A) SUBSTITUT?)
L7 6 S L6 AND (ZINC OR ZN)
L8 4 DUP REM L7 (2 DUPLICATES REMOVED)
L9 1 S L8 NOT PD>20030618
L10 1 S L9 NOT L5

=> d que L2
L1 385 SEA (APATITE OR HYDROXYAPATITE) (P) (ZN OR ZINC)
L2 43 SEA L1 (P) (DRUG OR MEDICAMENT OR THERAPEUTIC OR ANTIBIOTIC OR
ANTICANCER OR PROTEIN)

=> FIL STNGUIDE
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 9.04 9.26

FILE 'STNGUIDE' ENTERED AT 02:04:22 ON 17 AUG 2009
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 14, 2009 (20090814/UP).

=> log hold
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 0.14 9.40

SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 02:05:27 ON 17 AUG 2009

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSPTAJHAA1616

PASSWORD:
* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'STNGUIDE' AT 02:17:06 ON 17 AUG 2009

FILE 'STNGUIDE' ENTERED AT 02:17:06 ON 17 AUG 2009
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.14	9.40

=> d his

(FILE 'HOME' ENTERED AT 01:58:15 ON 17 AUG 2009)

FILE 'MEDLINE, BIOSIS' ENTERED AT 01:58:35 ON 17 AUG 2009
L1 385 S (APATITE OR HYDROXYAPATITE) (P) (ZN OR ZINC)
L2 43 S L1 (P) (DRUG OR MEDICAMENT OR THERAPEUTIC OR ANTIBIOTIC OR AN
L3 5 S L2 (P) (POROUS OR PORE OR POROS?)
L4 3 DUP REM L3 (2 DUPLICATES REMOVED)
L5 1 S L4 NOT PD>20030618
L6 137 S (APATITE OR HYDROXYAPATITE) (P) (CALCIUM (5A) SUBSTITUT?)
L7 6 S L6 AND (ZINC OR ZN)
L8 4 DUP REM L7 (2 DUPLICATES REMOVED)
L9 1 S L8 NOT PD>20030618
L10 1 S L9 NOT L5

FILE 'STNGUIDE' ENTERED AT 02:04:22 ON 17 AUG 2009

=> d search
YOU HAVE REQUESTED DATA FROM FILE 'BIOSIS' - CONTINUE? (Y)/N:n

=> quit
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.28	9.54

STN INTERNATIONAL LOGOFF AT 02:18:01 ON 17 AUG 2009